

Application No. 09/610,630

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REMARKS

A Petition for a one (1) month extension of time under 37 CFR 1.136(a) is enclosed along with a PTO-2038 for credit card payment of the extension fee of \$110.00.

Applicants shall supply a set of Formal Drawings upon receiving a Notice of Allowance in this application.

The specification has been amended at Page 6, lines 3-21 to delete items objected to by the Examiner. Specifically, SQL and PeopleSoft have been deleted from the text. It is noted, however, that SQL is an acronym for "Structured Query Language", which is a standard. It is further noted that Microsoft SQL Server™ is considered a common law trademark of Microsoft Corporation.

Claims 2-4 and 27-29 have been canceled. Claims 1, 5, 8, 11, 19, 20, 23, 26, 30, 33, 36, 37 and 40 are currently amended. Claims 31, 32, 34, 35, 38, 39, 41 and 42 have been previously amended. Claims 6, 7, 9, 10, 12-18, 21, 22, 24 and 25 are as originally filed.

Objections to the Specification

It is believed that the amendment to the specification in page 6 has obviated the Examiner's grounds for objection. The references to trademarks has been deleted.

Claim Rejections Under 35 U.S.C. § 102

The Examiner has rejected claims 1-4, 8 through 19, 23 through 29, 33 through 36 and 40 through 42 under 35 U.S.C. § 102(e) as being anticipated by United States Patent No. 6,594,277 issued to Luo-Jen Chiang et al. on July 15, 2003, filed July 23, 1999.

It is respectfully submitted that applicants believe that the amendments to the claims have obviated the Examiner's grounds for rejection.

Briefly, applicants' unique invention is directed at overcoming problems and limitations of prior known policy-based network management (PBM) arrangements such that disclosed in the Chiang et al. patent. This is realized by applicants through integrating the "what" and "how" of PBM in a single framework that enables a system administrator to specify service-level QoS (quality of service) goals for automatic enforcement instead of, or in addition to, policy rules or procedures. Automatic enforcement of the specified QoS goals is realized by applicants through the execution of policy logic, i.e. policy rules

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or procedures, without the client or system administrator having to specify the policy logic in the form of rules and/or procedures.

Applicants' in one embodiment of their invention, employ a management server including a graphical interface that allows a user, e.g. an administrator, to easily specify parameters for predefined types of service-level QoS goals. A QoS goal is defined by specifying a client, a service, and a QoS expression. A QoS expression is a proposition that indicates the client's desired range of values for some QoS metric, e.g. service response time or service availability. The state of the network is monitored and one or more defined QoS goals are selected for evaluation in a continuous process. The QoS delivered for the selected goal is determined and compared to the selected QoS goal. Then, prescribed actions are taken or not depending whether the delivered QoS is equal to the selected QoS goal. If not, and the delivered QoS exceeds the selected QoS goal, a set of actions is determined and executed to reduce network resources, i.e. network element resources, assigned to the client and service of the selected goal. Similarly, if the delivered QoS is worse than the selected QoS goal, a set of actions is determined and executed to increase network resources assigned to the client and service of the selected goal. (See page 1, line 28 through page 2, line 18 of applicants' specification).

More specifically, applicants' unique invention allows a system administrator to specify a set of goals and objectives that are stored in a goal repository, describing the "what" of service-level QoS management. For each goal G in some objective H specified, a policy is automatically selected such that the effect of executing P(G) is to enforce goal G to the extent that is feasible given the available networked resources. Thus, the invention accepts only a limited set of goals for which the embodiment of the invention contains the policy logic needed to enforce those goals. The "how" of enforcing the goals is specified by the policy logic contained in the embodiment. A simplified example of policy logic is given in TABLE 2 of FIG. 2.

In this embodiment of the invention there is an explicit distinction between the "what" and "how" of PBM and each one is an integral part of a policy framework and a PBM solution which enables the following:

- Directly specifying (and modifying on-line) clients' service-level QoS goals as part of the network management objective;

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- Easily reporting and verifying the effectiveness of policy-based management for achieving these goals;
- Providing feedback so that policy logic can be modified, either manually off-line or automatically on-line to achieve desired QoS goals;
- Enabling service providers and clients to establish service-level agreements (SLA's) based on goals and objectives that are mutually understood. As an integral part of the policy specification, such SLA's enable an SLA-based revenue model for service providers, as opposed to the flat-rate pricing that is presently the norm for service providers. (See page 5, line 10 through page 6, line 2 of applicants' specification).

Applicants' claim 1 has been amended to further clarify this important distinction between the "what" and "how" of PBM and now calls for:

"1. A method for use in a policy-based management system for a computer network having one or more network resources comprising the steps of:

enabling a system administrator to specify predefined service level goals for said computer network;

specifying a prescribed quality of service goal for a prescribed client and prescribed service;

executing policy logic to automatically enforce said specified quality of service goal;

determining a delivered quality of service for said specified quality of service goal being executed, said determining a delivered quality of service including continuously monitoring states of said computer network resources assigned to said prescribed client and said service;

determining if said delivered quality of service is different than said specified quality of service goal; and

if so, executing prescribed actions regarding network resources assigned to said client for said prescribed service, wherein said actions are intended to adjust said delivered quality of service toward being equal to said specified quality of service goal,

wherein said system administrator does not have to specify said prescribed actions intended to enforce said specified quality of service goal."

Surely, Chiang et al. do not disclose any such combination of steps.

It appears that Chiang et al in their apparatus are concerned only with providing a desired class of service referred to as a User Class of Service (UCOS) that is convert into a Network Class of Service (Chiang et al. col. 4, lines15-24). Each Network Class of

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Service implies minimum network guarantees (Chiang et al. col. 4, lines 24-26). In an example given by Chiang et al., a minimum bandwidth is guaranteed for a call. If adequate system bandwidth is not available, admission of the call to the system will be rejected or renegotiated. Even if there is adequate system bandwidth the call still may be rejected or have to be renegotiated. Chiang et al. are not very clear on what is meant by renegotiated. Apparently, it means that a lower or poorer class of service is offered. Chiang et al., in col. 6 lines 8-10, indicate that the call is renegotiated to a different class of service than first desired by the user. Chiang et al. show a QoS database 70 that is used to store user and device profiles (Chiang et al. col. 3, lines 52-54). They are silent as to what these profiles are. They certainly are not applicants' QoS goals as shown in applicants' FIG. 1 or applicants' policy procedural logic as shown in applicants' FIG. 2.

Again, it should be noted that applicants' unique invention is concerned with obtaining the desired QoS and adjusted the computer network resources to obtain it. Thus, if the monitored QoS in the computer network is worse than desired, applicants' invention adjusts the computer network resources in order to raise the QoS up to the desired level. Similarly, if the monitored QoS is greater than the desired QoS, applicants' unique invention again adjusts the computer network resources to lower the monitored QoS to the desired level. Applicants' respectfully submit that Chiang et al. nowhere show, teach or suggest any such technique nor any arrangement for effecting applicants' unique invention.

It is therefore again submitted that Chiang et al. fail to describe any method or apparatus for adjusting computer network resources to realize a desired QoS as now defined in applicants' claim 1 as currently amended, namely,

"1. A method for use in a policy-based management system for a computer network having one or more network resources comprising the steps of:

enabling a system administrator to specify predefined service level goals for said computer network;

specifying a prescribed quality of service goal for a prescribed client and prescribed service;

executing policy logic to automatically enforce said specified quality of service goal;

determining a delivered quality of service for said specified quality of service goal being executed, said determining a delivered quality of

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service including continuously monitoring states of said computer network resources assigned to said prescribed client and said service;

determining if said delivered quality of service is different than said specified quality of service goal; and

if so, executing prescribed actions regarding network resources assigned to said client for said prescribed service, wherein said actions are intended to adjust said delivered quality of service toward being equal to said specified quality of service goal,

wherein said system administrator does not have to specify said prescribed actions intended to enforce said specified quality of service goal."

In light of the above it is respectfully submitted that claim 1, as currently amended, is allowable over the rejection under 35 U.S.C. § 102(e) based on the Chiang et al. patent.

Moreover, in light of the significant differences between applicants' unique invention and the Chiang et al. apparatus, it is further submitted that applicants' invention as now defined in claim 1 would not have been obvious to one possessing ordinary skill in the art upon reading the Chiang et al patent. Consequently, it is believed that claim 1, as currently amended, is also allowable under 35 U.S.C § 103.

Claim 8, as currently amended, calls for the

"step of executing policy logic to determine if said delivered quality of service is different includes a step of determining if said delivered quality of service is worse than said specified quality of service goal and, if so, said step of executing prescribed actions includes steps of determining and executing a set of actions to increase network resources assigned to said prescribed client and said prescribed service of said specified quality of service goal."

Again, it is submitted that Chiang et al. fail to disclose any such steps. Therefore, it is believed that claim 8, as currently amended, is allowable over the rejection under 35 U.S.C. § 102(e) based on the Chiang et al. patent.

Moreover, in light of the significant differences between applicants' unique invention and the Chiang et al. apparatus, it is further submitted that applicants' invention as now defined in claim 8 would not have been obvious to one possessing ordinary skill in the art upon reading the Chiang et al patent. Consequently, it is believed that claim 8, as currently amended, is also allowable under 35 U.S.C § 103.

Furthermore, claim 8 is dependent from claim 1, which as indicated above, is believed to be allowable, so too, should claim 8 be allowed.

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Claims 9 and 10 are dependent from claim 8 and claim 1, both of which are believed to be allowable for the reasons stated above. Since both claims 1 and 8 are believed to be allowable and claims 9 and 10 include all the inventive steps in claims 1 and 8, they too, should also be allowed.

As indicated above, applicants' respectfully disagree that Chiang et al. store QoS goals and/or policy logic procedures. Accordingly, claim 11, as currently amended, is believed to be allowable over the rejection under 35 U.S.C. § 102(e) based on the Chiang et al. patent.

Moreover, in light of the significant differences between applicants' unique invention and the Chiang et al. apparatus, it is further submitted that applicants' invention as now defined in claim 11 would not have been obvious to one possessing ordinary skill in the art upon reading the Chiang et al patent. Consequently, it is believed that claim 11, as currently amended, is also allowable under 35 U.S.C § 103.

Claims 12 and 13 are dependent from claim 11 and claim 1, both of which are believed to be allowable for the reasons stated above. Since both claims 1 and 11 are believed to be allowable and claims 12 and 13 include all the inventive steps in claims 1 and 11, they too, should also be allowed.

Claim 14 is also believed to be allowable over the rejection under 35 U.S.C. § 102(e) based on the Chiang et al. patent. As also indicated above it is submitted that Chiang et al. fail to disclose the claimed "steps of adding a service level quality of service goal to said stored quality of service goals, redefining a stored service level quality of service goal or removing a stored service level quality of service goal." Surely, storing user calling habits is not the same as the steps called for in claim 14. Accordingly, claim 14, as currently amended, is believed to be allowable over the rejection under 35 U.S.C. § 102(e) based on the Chiang et al. patent.

Moreover, in light of the significant differences between applicants' unique invention and the Chiang et al. apparatus, it is further submitted that applicants' invention as now defined in claim 14 would not have been obvious to one possessing ordinary skill in the art upon reading the Chiang et al patent. Consequently, it is believed that claim 14, as currently amended, is also allowable under 35 U.S.C § 103.

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Further, claims 14 is dependent from claim 11 and claim 1, both of which are believed to be allowable for the reasons stated above. Since both claims 1 and 11 are believed to be allowable and claim 14 includes all the inventive steps in claims 1 and 11, it too, should also be allowed.

Claims 15 -19 are similar in scope and nature to those addressed above and are believed such that Chiang et al. have failed to disclose the recites steps or the recited steps taken in conjunction with the claims from which they are dependent as discussed above and, therefore, are believed to be allowable over the the rejection under 35 U.S.C. § 102(e) based on the Chiang et al. patent.

Claims 20-25 are similar in scope to claims 5-10 discussed above and should be allowed for the same reasons as claims 5-10 as set forth above.

Claims 26, and 30-42 are apparatus claims similar in scope to claims 1, and 5-25 discussed above regarding 35 U.S.C § 102 and below regarding 35 U.S.C § 103.

Moreover, in light of the significant differences between applicants' unique invention and the Chiang et al. apparatus, it is further submitted that applicants' invention as now defined in claims 15-19 would not have been obvious to one possessing ordinary skill in the art upon reading the Chiang et al patent. Consequently, it is believed that claims 15-19 are also allowable under 35 U.S.C § 103.

Rejection Under 35 U.S.C § 103

The Examiner has also rejected claims 5 through 7, 20 through 22, 30 through 32 and 37 through 39 under 35 U.S.C. § 103(a) as being unpatentable over Chiang et al. in lieu of obviousness.

This rejection is respectfully traversed.

Moreover, it is respectfully submitted that the amendments to the claims have further clarified the significant differences between the Chiang et al apparatus and applicants' unique invention as now defined in the claims.

Claim 5, as currently amended, now calls for

"5. The method as defined in claim 1 wherein said step of determining if said delivered quality of service is different includes a step of determining if said delivered quality of service exceeds said specified quality of service goal and, if so, said step of executing includes steps of determining and executing a set of actions to reduce said computer network resources assigned to said prescribed client and said prescribed service of said specified quality of service goal."

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Surely, Chiang et al. do not show, teach or suggest any such combination of steps when coupled with parent claim 1, as currently amended. Where does Chiang et al. even suggest the elements of claim 5, as currently amended, especially when combined with the steps of claim? As indicated above, if the bandwidth is not available in Chiang the call is rejected or renegotiated to some presumed lower class of service. Applicants' believed that this is quite different from observing the monitored class of service and when it is greater than the specified desired QoS adjusting the computer network resources to achieve the desired QoS. In Chiang et al. they are accepting a lower class of service and presumably a lower QoS.

In light of these significant differences it is believed that claim 5, as currently amended is allowable over the rejection under 35 U.S.C. § 103(a) as being unpatentable over Chiang et al. in lieu of obviousness.

Moreover, claim 5 is dependent from claim 1, which as indicated above is believed to be allowable. Since claim 5 includes all the inventive steps of claim 1, it too, should be allowed.

Claims 6 and 7 are dependent from claim 5 and claim 1 and therefore include all the inventive elements of those claims which are believed to be allowable, so too, claims 6 and 7 should also be allowed.

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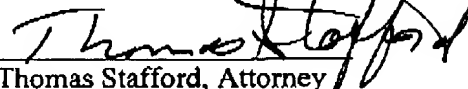
Claims 20-23, 30-32 and 37-39 are of similar scope to claims 5-7 and therefore should also be allowed for the same reasons as set forth for claims 5-7.

Claims 1, 5-26, and 30-42 remain in this application.

It is now believed that this application is in condition for allowance. Reconsideration and allowance are therefore respectfully solicited.

If there are still outstanding issues to be resolved, the Examiner is respectfully invited to call applicants' attorney, Thomas Stafford, at 727-772-4173 so that those issues may be discussed and satisfactorily resolved.

Respectfully,
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By 
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Dated: 01/12/2004